

WHAT IS CLAIMED IS:

1. An isolated nucleic acid comprising a polynucleotide having at least 20 consecutive nucleotides of the nucleotide sequence SEQ ID No. 1, or an isolated nucleic acid of complementary sequence.

5 2. The isolated nucleic acid according to claim 1, comprising a polynucleotide which has at least 20 consecutive nucleotides of the sequence SEQ ID No. 2, or an isolated nucleic acid of complementary sequence.

3. The isolated nucleic acid according to claim 1, comprising a polynucleotide which has at least 20 consecutive nucleotides of the sequence SEQ
10 ID No. 3, or an isolated nucleic acid of complementary sequence.

4. The isolated nucleic acid according to claim 1, comprising a polynucleotide which has at least 20 consecutive nucleotides of the sequence SEQ ID No. 4, or an isolated nucleic acid of complementary sequence.

5. The isolated nucleic acid according to claim 1, comprising a
15 polynucleotide which has at least 20 consecutive nucleotides of the sequence SEQ ID No. 5, or an isolated nucleic acid of complementary sequence.

6. The isolated nucleic acid according to claim 1, wherein said nucleic acid modifies the transcription of a polynucleotide placed under its control.

7. The isolated nucleic acid according to claim 6, wherein said isolated
20 nucleic acid is a polynucleotide comprising a sequence ranging from the nucleotide

at position -1 to the nucleotide at position -200, with respect to the first nucleotide transcribed, which is located at position 2894 of the nucleotide sequence SEQ ID No. 1.

8. The isolated nucleic acid according to claim 6, wherein said isolated
5 nucleic acid is a polynucleotide comprising a sequence ranging from the nucleotide at position -1 to the nucleotide at position -300, with respect to the first nucleotide transcribed, which is located at position 2894 of the nucleotide sequence SEQ ID No. 1.

9. The isolated nucleic acid according to claim 6, comprising a
10 polynucleotide ranging from the nucleotide at position -1 to the nucleotide at position -600, with respect to the first nucleotide transcribed, which is located at position 2894 of the nucleotide sequence SEQ ID No. 1.

10. The isolated nucleic acid according to claim 6, comprising a
15 polynucleotide ranging from the nucleotide at position -1 to the nucleotide at position -2894, with respect to the first nucleotide transcribed, which is located at position 2894 of the nucleotide sequence SEQ ID No. 1.

11. The isolated nucleic acid according to claim 6, comprising a
polynucleotide ranging from the nucleotide at position +120 to the nucleotide at position -995, with respect to the first nucleotide transcribed, which is located at
20 position 2894 of the nucleotide sequence SEQ ID No. 1.

12. The isolated nucleic acid according to claim 6, comprising a polynucleotide ranging from the nucleotide at position +108 to the nucleotide at position -2228, with respect to the first nucleotide transcribed, which is located at position 2894 of the nucleotide sequence SEQ ID No. 1.

5 13. The isolated nucleic acid according to claim 6, wherein said isolated nucleic acid activates the transcription of a polynucleotide of interest placed under its control.

10 14. The isolated nucleic acid according to claim 6, wherein said isolated nucleic acid inhibits the transcription of a polynucleotide of interest placed under its control.

 15. An isolated nucleic acid having at least 80% nucleotide identity with an isolated nucleic acid according to claim 1.

 16. The isolated nucleic acid according to claim 15, wherein said isolated nucleic acid modifies the transcription of a polynucleotide placed under its control.

15 17. The isolated nucleic acid according to claim 15, wherein said isolated nucleic acid is a polynucleotide comprising a sequence ranging from the nucleotide at position -1 to the nucleotide at position -300, with respect to the first nucleotide transcribed, which is located at position 2894 of the nucleotide sequence SEQ ID No. 1.

18. The isolated nucleic acid according to claim 15, comprising a polynucleotide ranging from the nucleotide at position -1 to the nucleotide at position -600, with respect to the first nucleotide transcribed, which is located at position 2894 of the nucleotide sequence SEQ ID No. 1.

5 19. The isolated nucleic acid according to claim 15, comprising a polynucleotide ranging from the nucleotide at position -1 to the nucleotide at position -200, with respect to the first nucleotide transcribed, which is located at position 2894 of the nucleotide sequence SEQ ID No. 1.

10 20. The isolated nucleic acid according to claim 15, comprising a polynucleotide ranging from the nucleotide at position -1 to the nucleotide at position -2894, with respect to the first nucleotide transcribed, which is located at position 2894 of the nucleotide sequence SEQ ID No. 1.

15 21. The isolated nucleic acid according to claim 15, comprising a polynucleotide ranging from the nucleotide at position +120 to the nucleotide at position -995, with respect to the first nucleotide transcribed, which is located at position 2894 of the nucleotide sequence SEQ ID No. 1.

20 22. The isolated nucleic acid according to claim 15, comprising a polynucleotide ranging from the nucleotide at position +108 to the nucleotide at position -2228, with respect to the first nucleotide transcribed, which is located at position 2894 of the nucleotide sequence SEQ ID No. 1.

23. An isolated nucleic acid which hybridizes, under high stringency hybridization conditions, with an isolated nucleic acid according to claim 1.

24. The isolated nucleic acid according to claim 23, wherein said isolated nucleic acid modifies the transcription of a polynucleotide placed under its control.

5 25. The isolated nucleic acid according to claim 24, wherein said isolated nucleic acid is a polynucleotide comprising a sequence ranging from the nucleotide at position -1 to the nucleotide at position -300, with respect to the first nucleotide transcribed, which is located at position 2894 of the nucleotide sequence SEQ ID No. 1.

10 26. The isolated nucleic acid according to claim 24, wherein said isolated nucleic acid is a polynucleotide comprising a sequence ranging from the nucleotide at position -1 to the nucleotide at position -200, with respect to the first nucleotide transcribed, which is located at position 2894 of the nucleotide sequence SEQ ID No. 1.

15 27. The isolated nucleic acid according to claim 24, comprising a polynucleotide ranging from the nucleotide at position -1 to the nucleotide at position -600, with respect to the first nucleotide transcribed, which is located at position 2894 of the nucleotide sequence SEQ ID No. 1.

20 28. The isolated nucleic acid according to claim 24, comprising a polynucleotide ranging from the nucleotide at position -1 to the nucleotide at position

-2894, with respect to the first nucleotide transcribed, which is located at position 2894 of the nucleotide sequence SEQ ID No. 1.

29. The isolated nucleic acid according to claim 24, comprising a polynucleotide ranging from the nucleotide at position +120 to the nucleotide at position -995, with respect to the first nucleotide transcribed, which is located at position 2894 of the nucleotide sequence SEQ ID No. 1.

30. The isolated nucleic acid according to claim 24, comprising a polynucleotide ranging from the nucleotide at position +108 to the nucleotide at position -2228, with respect to the first nucleotide transcribed, which is located at position 2894 of the nucleotide sequence SEQ ID No. 1.

31. The isolated nucleic acid according to claim 24, wherein said isolated nucleic acid activates the transcription of a polynucleotide of interest placed under its control.

32. The isolated nucleic acid according to claim 24, wherein said isolated nucleic acid inhibits the transcription of a polynucleotide of interest placed under its control.

33. An isolated nucleic acid comprising the isolated nucleic acid according to one of claims 1 to 32, further comprising a polynucleotide encoding at least one compound chosen from polypeptides of interest and nucleic acids of interest.

34. The isolated nucleic acid according to claim 33, wherein said polynucleotide encoding at least one compound encodes at least one nucleic acid of interest chosen from sense oligonucleotides and antisense oligonucleotides.

35. A recombinant vector comprising at least one isolated nucleic acid
5 according to one of claims 1 to 34.

36. The recombinant vector according to claim 35, wherein said vector is chosen from a recombinant cloning vector and a recombinant expression vector.

37. A host cell transformed with at least one isolated nucleic acid according to one of claims 1 to 34.

10 38. A host cell transformed with a recombinant vector according to claim 35.

39. A non-human transgenic mammal wherein at least one of said mammals cells chosen from somatic cells and germ cells have been transformed with at least one isolated nucleic acid according to one of claims 1 to 34.

15 40. A non-human transgenic mammal wherein at least one of said mammals cells chosen from somatic cells and germ cells have been transformed with a recombinant vector according to claim 35.

41. A method for screening a substance or a molecule which modifies the transcription of the polynucleotide which is a constituent of the isolated nucleic acid
20 according to claim 33, comprising:

- a) culturing a host cell transformed according to one of claims 37 and 38;
- b) incubating the transformed host cell in the presence of the candidate substance or molecule;
- c) detecting the expression of the polynucleotide of interest;
- 5 d) comparing the detection results obtained in c) with the detection results obtained by culturing the transformed host cell in the absence of the candidate molecule or substance.

42. A kit for screening, *in vitro*, a candidate molecule or substance which modifies the transcription of the polypeptide of interest which is a constituent of the
10 isolated nucleic acid according to claim 33, comprising:

- a) a host cell transformed according to one of claims 37 and 38;
- b) optionally, the means required for detecting the transcription of the polynucleotide of interest which is a constituent of the isolated nucleic acid according to claim 30.

15 43. A method for screening, *in vivo*, a substance or molecule which modifies the transcription of a polynucleotide of interest which is a constituent of the isolated nucleic acid according to claim 33, comprising:

- a) administering the substance or molecule to a nonhuman transgenic mammal according to one of claims 39 and 40;
- 20 b) detecting the expression of the polynucleotide of interest in the transgenic mammal as treated in a);

c) comparing the detection results in b) with the results observed in a nonhuman transgenic mammal according to one of claims 39 and 40 which has not received the administration of the candidate substance or molecule.

44. A kit or pack for screening, *in vivo*, at least one candidate molecule or substance which modifies the transcription of the polynucleotide of interest which is a constituent of the isolated nucleic acid according to one of claims 1, 15 and 23, comprising:

- a) a non-human transgenic mammal according to one of claims 39 and 40;
- b) optionally, the means required for detecting the transcription of said polynucleotide of interest.

45. A substance which modifies the transcription of a polynucleotide of interest which is a constituent of the isolated nucleic acid according to claim 33.

46. The substance according to claim 45, wherein said substance comprises at least one molecule which modifies the transcription of a polynucleotide of interest which is a constituent of the isolated nucleic acid according to claim 33.

47. The substance according to claim 45, wherein said substance is selected according to the method of claim 41 or the method of claim 43.

48. A pharmaceutical composition comprising, as active principle, at least one substance or a molecule according to one of claims 45 to 47.

49. The pharmaceutical composition according to claim 48, wherein said composition is used for treating a disorder chosen from hypercholesterolemia and atherosclerosis.

50. A substance according to one of claims 45 to 47, as an active principle
5 of a medicinal product.

51. A method for detecting an impairment of the transcription of the ABC1 gene in an individual, comprising:

a) extracting the total messenger RNA from a biological material originating from the individual to be tested;

10 b) quantifying the ABC1 messenger RNA present in said biological material:

c) comparing the amount of ABC1 messenger RNA obtained in b) with the amount of ABC1 messenger RNA expected in a normal individual.

52. A method for detecting an impairment of the transcription of the ABC1 gene in an individual, comprising:

15 a) sequencing, starting with a biological material originating from said individual, a polynucleotide located upstream of the transcription start site of the ABC1 gene;

b) aligning the nucleotide sequence obtained in a) with the sequence SED ID No. 1;

c) determining the nucleotide differences between the sequenced polynucleotide originating from the biological material of the individual to be tested and the reference sequence SEQ ID No. 1.

53. A kit for detecting an impairment of the transcription of the ABC1 gene
5 in an individual, comprising the means required for quantifying the ABC1 messenger RNA in a biological material originating from said individual.

54. A kit for detecting an impairment of the transcription of the ABC1 gene in an individual, comprising the means required for sequencing a polynucleotide located upstream of the transcription start site of the ABC1 gene in said individual.

10 55. A method for screening a molecule or substance which modifies the transcription of the polynucleotide of interest which is a constituent of an isolated nucleic acid according to claim 33, comprising:

a) incubating at least one isolated nucleic acid according to one of claims 1 to 34, or a recombinant vector according to claim 35, with a candidate molecule or
15 substance to be tested;

b) detecting the complex formed between the candidate molecule or substance and the candidate molecule or substance.

56. A kit or pack for screening a candidate molecule or substance which modifies the transcription of the polynucleotide of interest which is a constituent of
20 the isolated nucleic acid according to claim 33, comprising:

a) at least one isolated nucleic acid according to one of claims 1 to 34 or a recombinant vector according to claim 35;

b) optionally, the means required for detecting the complex formed between the candidate molecule or substance and said isolated nucleic acid.

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